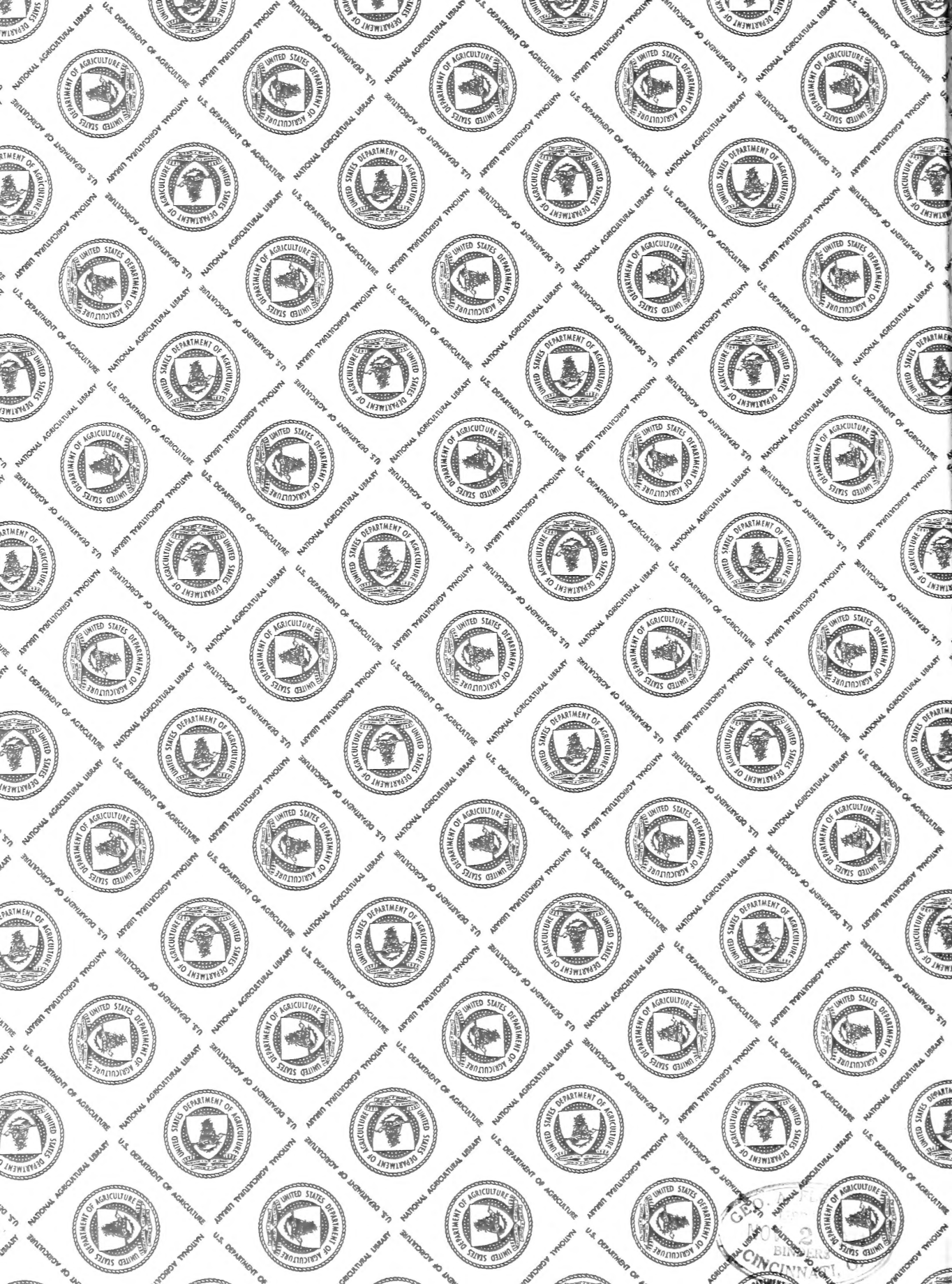


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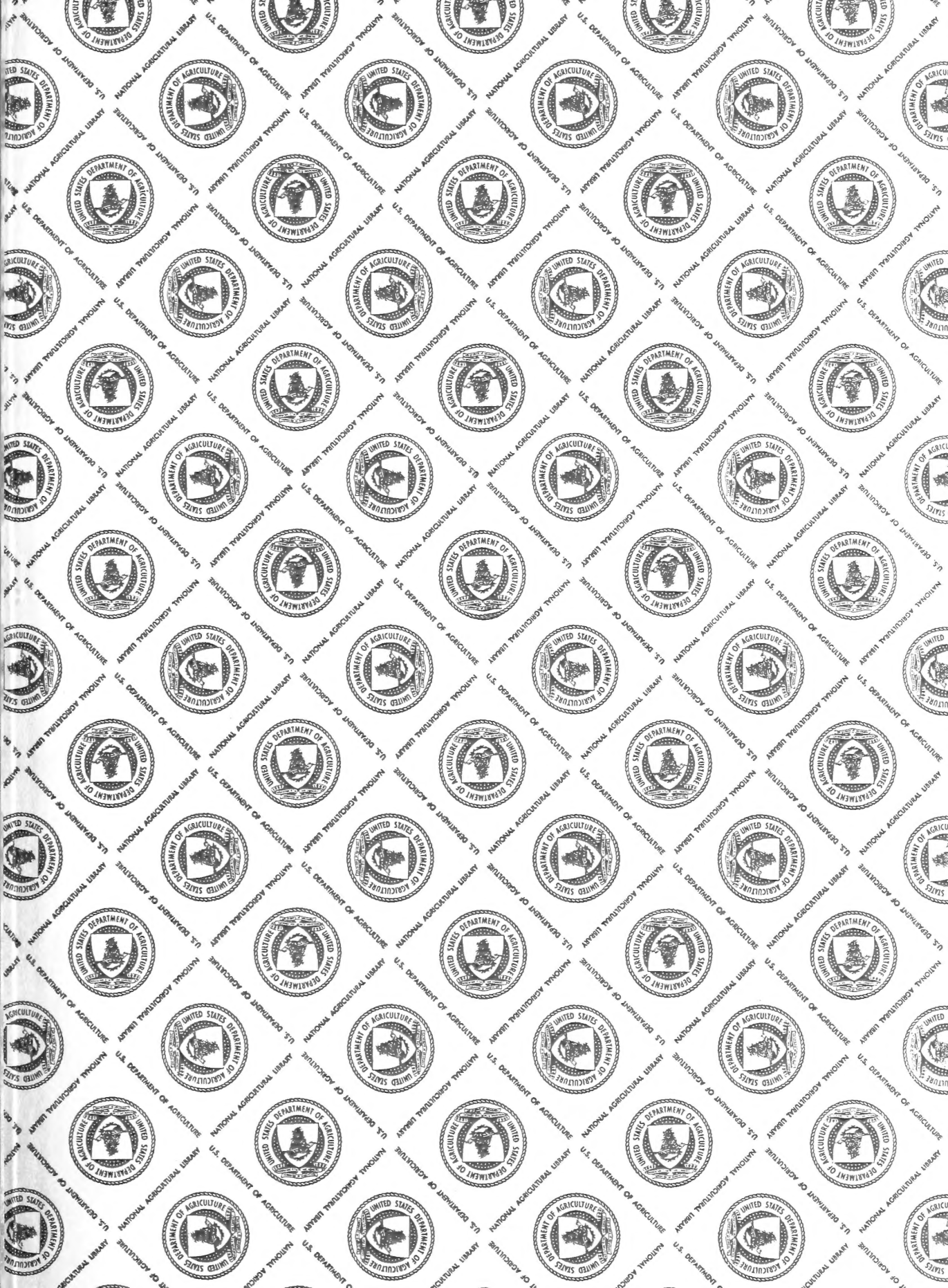
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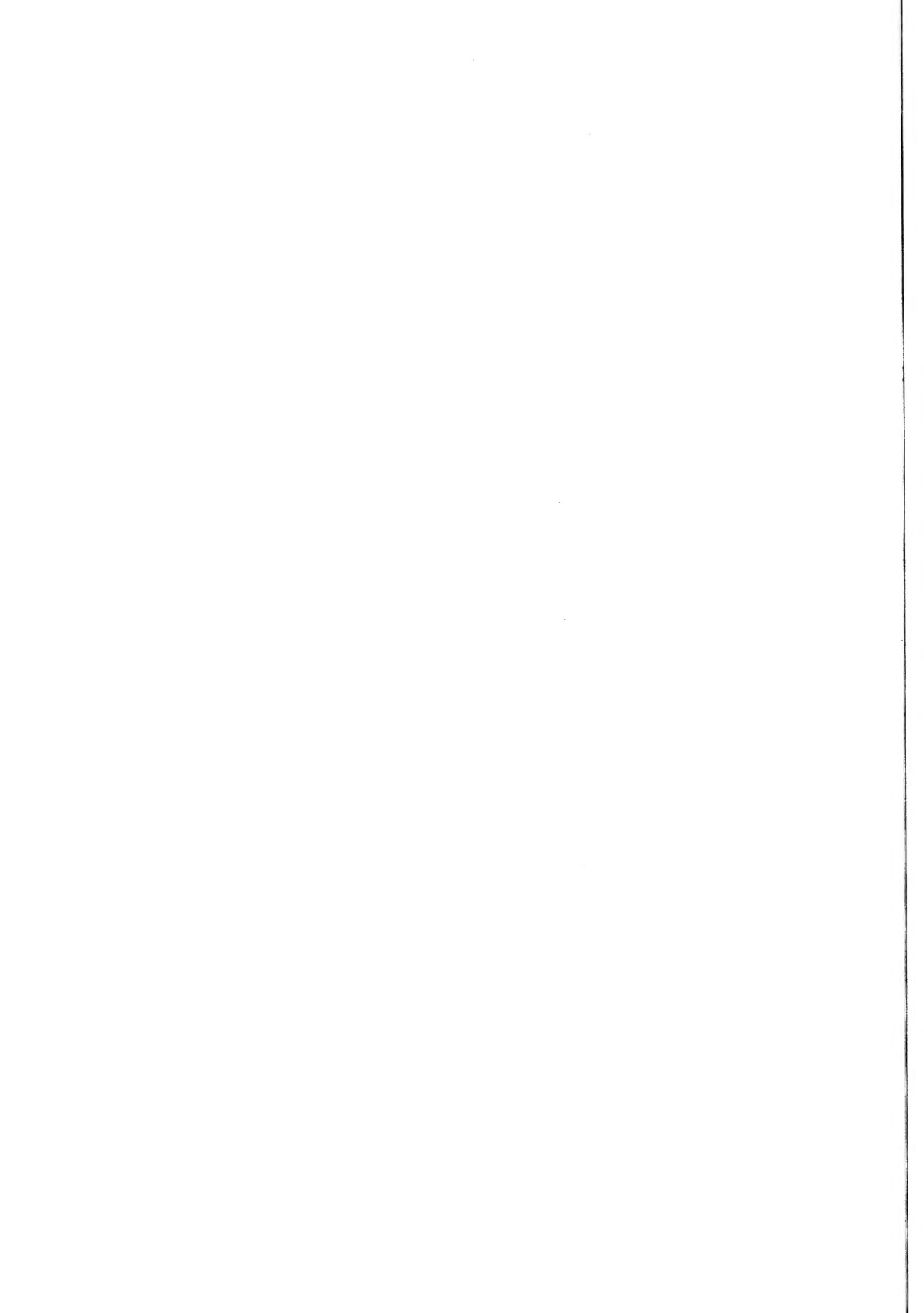






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Cooperative
**ECONOMIC INSECT
REPORT**

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PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

All correspondence pertaining to additions, deletions and changes of addresses for the mailing list for this report should be sent to:

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

ALFALFA WEEVIL increasing in Pontotoc County, Mississippi. (p. 3).

TURNIP APHID is heavy on turnips in Oktibbeha and Lowndes Counties, Mississippi; increasing in Houston County, Alabama. (p. 4).

COTTONY-CUSHION SCALE causing severe damage to some grapefruit in Yuma County, Arizona. (p. 4).

Detection

For new county records, see page 6.

Special Reports

State Survey Coordinators. (p. 8).

Cooperative Survey Entomologists. (p. 11).

The 1967 outlook for GRASSHOPPERS indicates less extensive infestations than in 1966, based on the 1966 adult survey. See map following page 12.

Reports in this issue are for week ending December 30 unless otherwise indicated.

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Insects Affecting

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Grasshopper Adult Survey, Fall 1966 (Map). Following page 12.

WEATHER BUREAU'S 30-DAY OUTLOOK

JANUARY 1967

The Weather Bureau's 30-day outlook for January 1967 is for temperatures to average below seasonal normals across the Nation except for near normal in south and north Atlantic Coastal States and also in the Great Lakes region. Precipitation is expected to exceed normal over the southern half of the Nation except for near normal totals over the central Pacific coast and parts of the southern Plains. Subnormal precipitation is called for in the far Northwest and also in the Great Lakes region while near normal amounts are indicated in unspecified areas.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington, D. C. 20250. Price \$5.00 a year.

Weather of the week continued on page 7.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

GREENBUG (Schizaphis graminum) - OKLAHOMA - Ranged 0-12 per linear foot in Mayes County wheat. Extremely cold weather reduced numbers to very low level in Payne County. (Okla. Coop. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - MISSISSIPPI - Nymphs and adults light on alfalfa in Oktibbeha County; 5-10 aphids per square foot. (Dinkins, Dec. 23). OKLAHOMA - Heavy in localized areas of Mayes County. (Okla. Coop. Sur.).

SMALL GRAINS

CHINCH BUG (Blissus leucopterus) - MISSOURI - Survey conducted in 11 counties; St. Clair County light, remainder noneconomic. (Munson). OKLAHOMA - Samples of overwintering habitats indicate less than 10 per square foot in Payne County. (Okla. Coop. Sur.).

ENGLISH GRAIN APHID (Macrosiphum avenae) - OKLAHOMA - Ranged 1-6 per linear foot in Mayes County wheat. (Okla. Coop. Sur.).

TURF, PASTURES, RANGELAND

A BILLBUG (Sphenophorus phoeniciensis) - ARIZONA - Medium in many lawns in Salt River Valley. Adults have laid eggs and second and third instar larvae now feeding on roots. (Ariz. Coop. Sur.).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - MISSISSIPPI - Moderate on alfalfa in Attala County; 5-10 larvae per square foot, mostly of first and second instar, week ending December 23. Increasing in Pontotoc County; larvae 20-25 per square foot. (Dinkins).

CLOVER LEAF WEEVIL (Hypera punctata) - OKLAHOMA - Low in Mayes County alfalfa. (Okla. Coop. Sur.).

PEA APHID (Acyrtosiphon pisum) - MISSISSIPPI - Nymphs and adults heavy on alfalfa in Attala County; 30-40 aphids per square foot. (Dinkins, Dec. 23). OKLAHOMA - Heavy in localized areas of Mayes County; light on fall-seeded vetch. (Okla. Coop. Sur.).

SUGARBEETS

BET ARMYWORM (Spodoptera exigua) - ARIZONA - Continues to show reduction in Maricopa and Pinal County sugarbeets. (Ariz. Coop. Sur.).

COLE CROPS

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - ALABAMA - Adults numerous, feeding on turnip leaves throughout Houston County. No damage observed. (Roney).

GREEN PEACH APHID (Myzus persicae) - FLORIDA - Total of 1,088 collected from 100 cabbage plants at Sanford, Seminole County; 884 wingless and 204 winged. (Greene, Dec. 23).

TURNIP APHID (Hyadaphis pseudobrassicae) - ALABAMA - Increasing on commercial turnips in Houston County, and on turnips and mustard in home gardens throughout State. (Roney et al.). MISSISSIPPI - Very heavy on turnips in Oktibbeha and Lowndes Counties. Leaf damage severe on some plants. (Dinkins).

GENERAL VEGETABLES

TULIP BULB APHID (Anuraphis tulipae) - UTAH - Infesting carrots in storage pit at Providence, Cache County. (Knowlton).

DECIDUOUS FRUITS AND NUTS

BLACK PECAN APHID (Myzocallis caryaefoliae) - ALABAMA - Unusual and large numbers of adults observed clustering on branches and twigs of pecans in Houston County orchard. Grower considering control. (Roney).

SAN JOSE SCALE (Aspidiotus perniciosus) - ALABAMA - Dormant individuals light to heavy on peach trees in Lee County. Lighter on apple, pear and plum trees. (McQueen).

CITRUS

COTTONY-CUSHION SCALE (Icerya purchasi) - ARIZONA - Populations causing severe damage to some grapefruit in Yuma County. (Ariz. Coop. Sur.). CALIFORNIA - Medium on lemon trees in Placerville, El Dorado County. Mild weather has allowed vedalia to be active. (Cal. Coop. Rpt.).

GREEN SCALE (Coccus viridis) - FLORIDA - Adults infested 95 percent of orange trees in nursery at Winter Haven, Polk County. (Eisenschenk, Skipper, Dec. 14).

ORNAMENTALS

APHIDS - NEW MEXICO - Light to moderate on potted chrysanthemums and bedding plants in greenhouse at Tularosa, Otero County, and on chrysanthemums in Albuquerque. (Elson, Kloepfher). CALIFORNIA - Aphis nerii heavy on oleander along highway in Davis, Yolo County. (Cal. Coop. Rpt.).

A WAX SCALE (Ceroplastes ceriferus) - FLORIDA - All stages severely infesting 80 percent of 2,000 podocarpus plants in nursery at Davie, Broward County. (Shirah, Dec. 14).

AZALEA BARK SCALE (Eriococcus azaleae) - ALABAMA - Second-year planting of 25 azalea plants in Lee County heavily damaged; several specimens have died. Plants were infested prior to planting. Similar infestations observed in Dallas County. (McQueen, Dec. 23).

TEA SCALE (Fiorinia theae) - ALABAMA - Heavy on leaves of old camellias at many Tallassee homes in Elmore County. Weakened shrubs contain only 40-60 percent of normal leaves. Buds and flowering reduced considerably. (McQueen).

MEALYBUGS - NEW MEXICO - Unspecified species light to very heavy and apparently killing some Chinese evergreens in Albuquerque, Bernalillo County. (Heninger).

SPIDER MITES - NEW MEXICO - Light to very heavy on ivy, croton, schefflera and other greenhouse plants in Albuquerque area, Bernalillo County. (Heninger).

FOREST AND SHADE TREES

FOREST TENT CATERPILLAR (Malacosoma disstria) - MINNESOTA - Egg surveys indicate areas infested and egg mass levels appear about same as last year. Survey still in progress. (Minn. Ins. Rpt.).

RED TURPENTINE BEETLE (Dendroctonus valens) - CALIFORNIA - Locally heavy in pine at Los Gatos, Santa Clara County. (Cal. Coop. Rpt.).

SARATOGA SPITTLEBUG (Aphrophora saratogensis) - MINNESOTA - Surveys indicate infestation extends outside Pine Island State Forest southward to Northome area. (Minn. Ins. Rpt., Dec. 23).

APHIDS (Eulachnus spp.) - ALABAMA - Continue to feed and increase on pine needles in central section of State causing objectionable honeydew on cars parked below. (McQueen, Dec. 23).

A GALL MIDGE (Contarinia sp.) - CALIFORNIA - Causing varying degrees of defoliation to Douglas-fir in 6,000-acre stand in Bluff Creek area and 15,000 acres in Red Cap Creek drainage of Six Rivers National Forest. Shaded and depressed trees most severely affected. (Cal. Coop. Rpt.).

MAN AND ANIMALS

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Averaged 30 grubs per yearling steer in Payne County. Ranged 15-18 per animal on mature cows. Populations appreciably higher in animals slaughtered at Oklahoma City. (Okla. Coop. Sur.).

SCREW-WORM (Cochliomyia hominivorax) - Total of 4 cases reported in U. S. December 25-31 as follows: TEXAS - Starr 1, Webb 1. CALIFORNIA - Imperial 2. Total of 147 cases reported in portion of Barrier Zone in Republic of Mexico as follows: Territorio sur de Baja California 27, Sonora 89, Chihuahua 13, Coahuila 1, Nuevo Leon 8, Tamaulipas 10. Total of 7 cases reported from Mexico south of the Barrier Zone. Barrier Zone is area where eradication operations underway to prevent establishment of self-sustaining population in U. S. Sterile screw-worm flies released: Texas 17,966,250, Arizona 6,864,000, Mexico 67,148,000, California 1,716,000. (Anim. Health Div.).

CATTLE LICE - ALABAMA - Bovicola bovis and Haematopinus eurytarnus detected in many herds of beef cattle in Wilcox County. (Farquhar). UTAH - Lice becoming numerous in Box Elder and Beaver Counties. (Knowlton, Esplin).

HOUSE FLY (Musca domestica) - ARKANSAS - Year around problem in new type "environmental controlled" laying houses throughout State. (Simco).

MOSQUITOES - CALIFORNIA - Populations dropped abruptly with advent of cool damp weather. Arthropod-borne encephalitis from July through September 1966 included 9 cases of western encephalitis and 8 of St. Louis encephalitis in northern and central areas. All but 3 cases were males from 2 months to 29 years old. (Cal. Coop. Rpt.).

NORTHERN FOWL MITE (Ornithonyssus sylviarum) - MISSISSIPPI - Light to moderate on caged laying hens in Oktibbeha County. (Dinkins).

A BROWN SPIDER (Loxosceles reclusa) - OKLAHOMA - Causing concern in homes throughout eastern section of State. (Okla. Coop. Sur.).

WINTER TICK (Dermacentor albipictus) - OKLAHOMA - Larvae, nymphs and adults heavy (1,000-2,000) on horses in restricted areas of eastern part of State. Cattle less heavily infested, 100-500 nymphs and adults in scattered areas. (Okla. Coop. Sur.)

FEDERAL & STATE PLANT PROTECTION PROGRAMS

ORIENTAL FRUIT FLY (Dacus dorsalis) - CALIFORNIA - Single male taken in trap at Anaheim, Orange County. This is fourth fly taken in area. Time lapse indicates possible slow emergence from single source. Fruit cutting continues negative. Up to 50 traps per square mile in vicinity of present catches. (Cal. Coop. Rpt.).

CARIBBEAN FRUIT FLY (Anastrepha suspensa) - FLORIDA - Few dead adult flies found in cages where suspect fruits, Ceylon peach and mango, had been placed in June 1966, at Miami, Dade County. (DeHaven, Brewton).

CITRUS WHITEFLY (Dialeurodes citri) - CALIFORNIA - Survey in San Diego County produced additional infested blocks. Treatment in known infested area progressing. Some extensions occurred in known infested areas of Sacramento, Sacramento County and Fresno, Fresno County. These infestations light. (Cal. Coop. Rpt.).

INSECT DETECTION

New County Records

A SNAIL (Rumina decollata) - CALIFORNIA - Adults light under lumber pile at Ojai, Ventura County. This represents northwesterly spread of 60 miles from Los Angeles; also known to occur at Bakersfield, Kern County. (Cal. Coop. Rpt.).

A BARK BEETLE (Xylosandrus compactus) - HAWAII - Collected on Hawaii Island. (p. 7).

AN ARMORED SCALE (Pseudaulacaspis major) - Collected at Lawai, Kauai. (p. 7).

LIGHT TRAP COLLECTIONS

GEORGIA - Tifton, 12/22-28, 1 blacklight trap, temperature 21-67°, precipitation 0.24 - Corn earworm (Heliothis zea) 1. FLORIDA - Gainesville, 12/27, 1 BL - Granulate cutworm (Feltia subterranea) 1, armyworm (Pseudaletia unipuncta) 3. Seminole - 12/19-21, 1 BL - Black cutworm (Agrotis ipsilon) 1, granulate cutworm 12, cabbage looper (Trichoplusia ni) 1. TEXAS - Brownsville, 12/17-23, 2 BL, temperature 41-80°, precipitation 0.09 - Black cutworm 31, salt-marsh caterpillar (Estigmene acrea) 1, granulate cutworm 35, corn earworm 3, variegated cutworm (Peridroma saucia) 16, yellow-striped armyworm (Prodenia ornithogalli) 12, armyworm 99, beet armyworm (Spodoptera exigua) 37, fall armyworm (S. frugiperda) 17, cabbage looper 25.

HAWAII INSECT REPORT

Turf, Pastureland - Populations of a BILLBUG (Sphenophorus venatus vestitus) remain light on Kikuyu grass pastureland in Kohala, Hawaii Island. Considerable damage to rhizomes occurred from previous infestations. Presently overwintering; serious damage may result in spring if rains cease. (LaPlante).

Fruits - A BARK BEETLE (Xylosandrus compactus) found established for first time on Hawaii Island. Adults damaging young custard-apple (Annona reticulata) at Waiakea Experimental Farm in Hilo. Acacia koa and several other plants also believed infested as emergence holes quite noticeable and terminals of some plants severely damaged. Surveys continuing. (Yoshioka). BARNACLE SCALE (Ceroplastes cirripediformis) remains serious on 200-acre passion-fruit farm at Kahului, Maui. Control application reduced adult population but nymphs remained extremely heavy in spotted areas. (Miyahira). An ARMORED SCALE (Pseudaulacaspis major) medium to heavy and causing considerable damage to young Litchi chinensis twigs in Lawai, Kauai. Scales congregated near terminals. This insect previously reported only from Oahu. (Au). Heavy populations of ORIENTAL FRUIT FLY (Dacus dorsalis) noted during November in Hilo, Hawaii Island; 1,045 guava fruits sampled from scattered areas yielded 3,929 pupae (41 percent parasitized) and 1,523 tropical-almond (Terminalia catappa) from Onekahakaha Beach yielded 10,444 pupae (65 percent parasitized). Parasitism mostly by Opius oophilus. (Hawaii Fruit Fly Investigations).

Miscellaneous - Larvae of a NOCTUID MOTH (Achaea janata) heavy on residential buildings in Kahului, Maui. Larvae light on graceful spurge (Euphorbia glomerifera) and adults medium in Hawaii and Kai areas, Oahu. (Miyahira, Nakao).

WEATHER OF THE WEEK ENDING JANUARY 2, 1967

HIGHLIGHTS: A week of cold temperatures in the central Rockies and the western Plains with heavy snow from the southern Rockies to New England, and generous rains in the Deep South.

PRECIPITATION: A storm developed over northeastern Arizona early in the week, clogging the highways of northern Arizona with snow and hampering traffic in northern New Mexico. After dumping heavy snow in the central and southern Rockies, the storm moved to the Great Plains, becoming the worst blizzard of this season. Winds reached 40-50 miles per hour while temperatures plunged to near zero. Snowfall ranged from 8 to 12 inches over parts of Nebraska and Kansas northeastward across southern Iowa and northern Missouri to southern Wisconsin and northern Illinois. Strong winds piled the snow in drifts several feet deep. South of the snow belt, freezing rain iced trees and wires, making for beautiful scenery but treacherous sidewalks, streets and highways from Missouri eastward to Kentucky and Virginia and northeastward across Maryland, eastern Pennsylvania and New York to New England. Generous rains fell over the Southland, visiting the lower Mississippi Valley early in the week and most of the Southeast on Wednesday, where numerous stations registered an inch or more. Locally heavy rains soaked the Deep South over the weekend with some areas from Louisiana to the Carolinas receiving several inches. The rains spread northward across Tennessee and Kentucky mixing with snow in the Ohio River Valley. Light rain occurred almost daily in the lower elevations in western Washington with snow at higher levels in the Cascades and eastward to the Rockies. Central and southeastern New Mexico and the western sections of Texas continued with little precipitation of consequence.

TEMPERATURE: Cold wintery weather gripped most of the Great Plains and the East as northerly winds continued to bring polar air from Canada in the far north. Subzero temperatures were common over parts of the northern and central Great Plains and at mountain stations to the west, with temperatures ranging down to -28° in the Colorado Rockies. Subfreezing temperatures occurred in 49 States on Wednesday. Readings in the 20's were reported as far south as southeastern Arizona, and in the Everglades of Florida. Over much of Utah, Colorado, Nebraska, Kansas, Arizona, New Mexico, Oklahoma and Texas, temperatures averaged 10° or more below normal. (Summary supplied by Environmental Data Service, ESSA).

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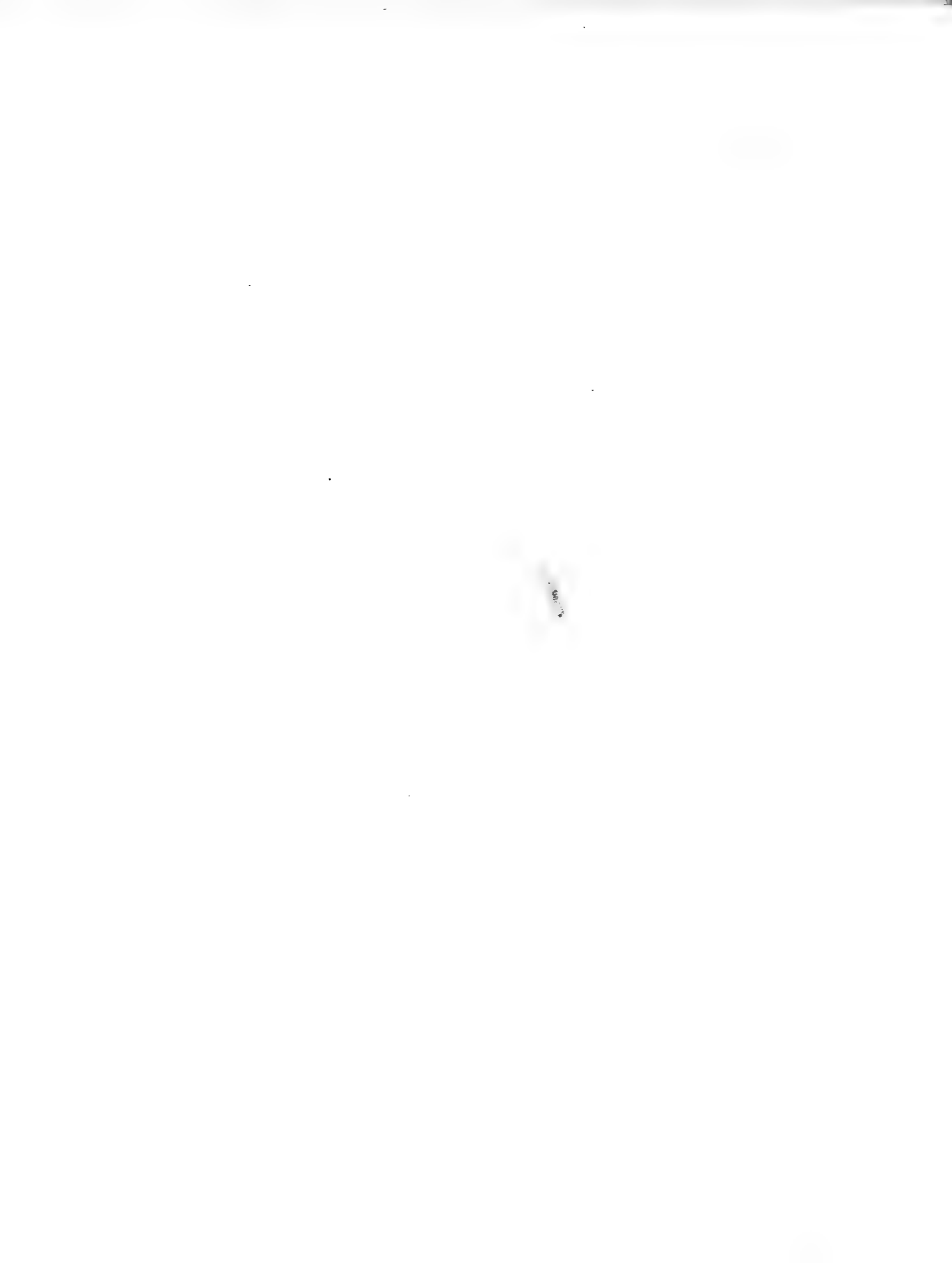
ie survey reveals where and how many grasshoppers infest
ensities, and indicate those areas where control may be neces-

rsonnel. The infested rangeland areas total 11,393,387 acres

FALL 1966.

LANDOWNERSHIP - ACRES		TOTAL ACRES
ite and State	Public Domain	
471,700	562,300	2,034,000
6,000	31,000	37,000
115,400	165,860	281,260
26,000	800	26,800
504,400	206,600	1,711,000
1,500	--	1,500
667,900	--	667,900
572,280	--	2,572,280

ious State agencies concerned.



UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

TO COOPERATORS:

This map is based upon the results of cooperative grasshopper adult surveys made during the late summer and fall of 1966. The survey reveals where and how many grasshoppers infest an area, and indicates the potential severity of infestations for 1967. Nymphal surveys, made in the spring, determine population densities, and indicate those areas where control may be necessary in 1967.

Control on grasshopper infested croplands will be handled by the farmers with technical assistance from Division and State personnel. The infested rangeland areas total 11,393,387 acres in 17 Western and Midwestern States. Areas on the map are diagrammatic. Within these areas, infestations may be solid or spotted.

RANGELAND GRASSHOPPER INFESTATIONS – ACREAGE BY REGIONS, FALL 1966.

(Areas Shown in Red)

REGION AND STATE	LANDOWNERSHIP – ACRES		TOTAL ACRES	REGION AND STATE	LANDOWNERSHIP – ACRES		TOTAL ACRES
	Private and State	Public Domain			Private and State	Public Domain	
CENTRAL							
Kansas	50,000	--	50,000	New Mexico	1,471,700	562,300	2,034,000
Nebraska	98,000	2,000	100,000	Oregon	6,000	31,000	37,000
South Dakota	53,660	28,280	81,940	Utah	115,400	165,860	281,260
WESTERN				Washington	26,000	800	26,800
Arizona	1,300	4,400	5,700	Wyoming	1,504,400	206,600	1,711,000
California	128,957	450	129,407	SOUTHERN			
Colorado	5,000	1,000	6,000	Arkansas	1,500	--	1,500
Idaho	32,300	65,000	97,300	Oklahoma	667,900	--	667,900
Montana	3,223,000	350,000	3,573,000	Texas	2,572,280	--	2,572,280
Nevada	3,700	14,600	18,300				

The survey was planned and performed by the Plant Pest Control Division, Agricultural Research Service, in cooperation with various State agencies concerned.

KEY

Rhod
Sout
Texa
Virg
Wis
Wyo



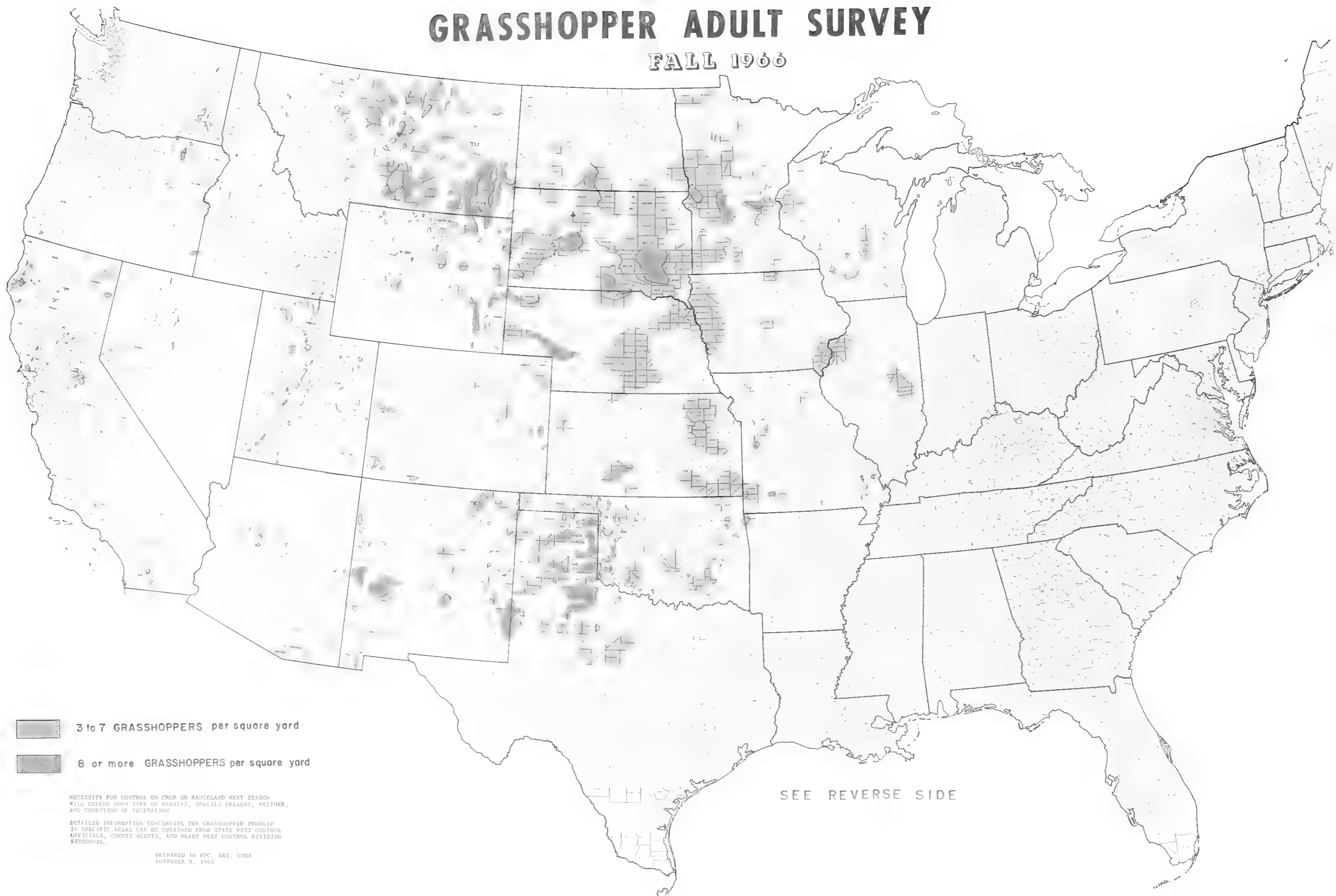
3 to
8 or

NECESSITY WILL DEPE
AND CONDI
DETAILED
IN SPECIF
OFFICIALS
PERSONNEL

SE SIDE

GRASSHOPPER ADULT SURVEY

FALL 1966



 3 to 7 GRASSHOPPERS per square yard

 8 or more GRASSHOPPERS per square yard

NECESSITY FOR CONTROL ON CROP OR RANGELAND NEXT SEASON
WILL DEPEND UPON TYPE OF HABITAT, SPECIES PRESENT, WEATHER,
AND CONDITION OF VEGETATION

DETAILED INFORMATION CONCERNING THE GRASSHOPPER PROBLEM
IN SPECIFIC AREAS CAN BE OBTAINED FROM STATE PEST CONTROL
OFFICIALS, COUNTY AGENTS, AND PLANT PEST CONTROL DIVISION
PERSONNEL.

PREPARED IN PPC, ARS, USDA
NOVEMBER 9, 1966

SEE REVERSE SIDE

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Hyattsville, Maryland 20782

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